

MAY 24 2007

REMARKS

The Examiner's careful review and examination of the subject application are noted and appreciated. Applicants appreciate the Examiner's detailed basis for rejection. Applicants have amended claim 16- 20 to correct the antecedent basis. Applicants have amended claim 1 to incorporate the limitations of previous claim 8 and respectfully request reconsideration of the present rejection to previous claim 8 (current claim 1) in light of the amendment and comments below.

1. Claim Rejections under 35 USC 112

Claims 15 has been amended to clarify that the cobalt is present in the positive electrode. Claims 20 has been amended to correct for antecedent basis. Therefore, Applicants believes that all claims rejection under 35 USC 112 have been overcome.

2. Rejection of Claims 1-19 under 35 U.S.C. 103(a) over Weckesser et al. (U.S. Pat. No. 6,346,575) in view of Lichtenberg et al. (U.S Patent Number 5,500,309)

Applicants appreciate the Examiner's detailed basis for rejection. Applicants have amended claim 1 to incorporate the limitations of previous claim 8 and respectfully requests reconsideration of the present rejection in light of the amendment and comments below.

Weckesser does not teach using graphite of at least 125 nm, nor does Weckesser teach an amount of graphite greater than 10 weight percent. In fact, Weckesser is silent as to both type and to the amount of graphite used. Applicants teach this specific type of graphite and specific amount of graphite to replace other materials in a battery electrode conductive matrix as stated in applicants' specification quoted below:

The graphite used should be electrically conductive and is preferably present in sufficient amount to form an electrically conductive network of graphite particles within the active composition. In one embodiment of the invention the active composition preferably comprises at least 10 wt percent of the graphite ...

(column 3, line 10 – 15)

Weckesser gives no reasons why a skilled practitioner would want to use a specific type of graphite or the specific amounts of graphite claimed by the Applicants. Without a teaching of the specific type of graphite and the specific amount graphite as taught by Applicants, a skilled practitioner would not be motivated to do what Applicants' claim (i.e., using a large level and specific type of graphite to act as a conductive matrix.)

Lichtenberg is relied on to teach a hydride accumulator which can withstand HTSC testing. Lichtenberg further describes graphite with crystallite sizes of at least 180 nm and preferably of at least 200 nm are suitable. (column 2, lines 39-50) The electric accumulator can have graphite admixed in a proportion by weight of between 1 and 25%. (Claim 6) Lichtenberg does not teach or suggest the use of cobalt as required by Applicants' claim 1.

Applicants teach using cobalt and along with amounts of graphite to produce a conductive matrix can improve electrode performance. (see column 7 line 10 – column 8, line 4) In contrast to Applicants' claimed invention, Lichtenberg describes problems associated with using cobalt such as massive irreversible losses in capacity due to the reductive destruction of cobalt. (column 2, lines 28-31) II. Lichtenberg solves the problem caused by cobalt by using "an oxidation-resistant graphite as the conducting medium" so that the inert graphite acts as the conductive matrix. (column 2, lines 50-55)

Lichtenberg et al. teaches in column 2, lines 20-25 and 39-41, that this will provide an alkaline Ni/metal hydride accumulator which can withstand the high temperature short circuit (HTSC) test which is conventionally performed by battery customers in the industry.

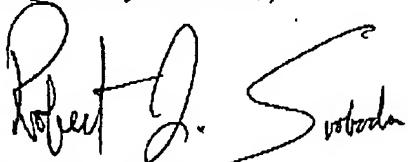
Lichtenberg's graphite containing compositions contain from 75 to 90% Ni(OH)_2 , preferably 85% and from 1 to 25% graphite, preferably 15% with no inclusion of cobalt or cobalt containing material (column 3 lines 46-57.) Utilizing HTSC tests, the graphite containing compositions are evaluated in comparison to conventional electrodes which contain cobalt, but no graphite (see column 3, lines 58-63, and Figure 1.)

Since Lichtenberg teaches harmful effects caused by cobalt, and further teaches the desirability of completely replacing cobalt with high crystallinity graphite as the conductive material with improved effects, a skilled practitioner would not be motivated modify the teachings of Lichtenberg to achieve an active electrode material comprising high crystallinity graphite and cobalt or cobalt containing material as claimed by Applicants' in amended claim 1. To the contrary, Lichtenberg teaches away from Applicants' claimed electrode material whereas Applicants teach the desirability of the combination of cobalt and high crystallinity graphite, Lichtenberg teaches the desirable of using high crystallinity graphite instead of cobalt. One of skill in the art who is apprised of the teachings of Lichtenberg would be motivated to eliminate cobalt in favor of high crystallinity graphite and would not be motivated to combine cobalt with high crystallinity graphite.

Since there is Lichtenberg and Weckesser cannot be combined to achieve Applicants' claimed invention, Applicants respectfully submit that the amended claim 1 is nonobvious over the cited combination. Thus, allowance of claims 1-7 and 9-20 is respectfully requested.

Applicants respectfully request withdrawal of all outstanding rejections and respectfully submit that the application stands in condition for allowance. If the Examiner has any questions or suggestions regarding this amendment, the Examiner is respectfully asked to contact Applicants' representative at the telephone number or email address listed below.

Respectfully submitted,



Robert J. Svoboda

Reg. No. 58,135

Date: 24 May 2007
Energy Conversion Devices
2956 Waterview Drive
Rochester Hills, MI 48309
Phone: (248) 299-6052
Fax: (248) 844-2273